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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

GILLESPIE, BENJAMIN

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/526,017	Applicant(s) WAGNER ET AL.	
	Examiner Benjamin J. Gillespie	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/16/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language of subsections b), c), d) and f) of claim 3 “at least one isocyanate-reactive group” allow for compounds having greater than two or more isocyanate-reactive groups, e) on the other hand lists “no compound comprising at least two isocyanate-reactive groups”, which is taken to limit the compounds to only mono-functional isocyanate-reactive groups. Therefore subsection e) of claim 3 is unclear and contradictory to b), c), d), and f) rendering the claim indefinite. While parts b)-d) and f) can be satisfied under e)’s limitation, the same can not be applied to e) under b)-d), and f).
2. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language “if desired” renders the claims indefinite because it is unclear when the addition of certain components is “desired”, which would satisfy the claim.
3. The language “higher homologs thereof” renders claim 8 indefinite because the term “higher” is it not typical within the art and it is unclear how the structure of the homologs would correspond to the claimed formula. Furthermore “can be” renders the

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claim indefinite because there is no clear distinction from when claim is optional.

Finally, claims 11-13 are rejected because the language "thermally treating" is indefinite, it is not clear what constitutes a thermal treatment, i.e. curing, annealing, drying, and therefore difficult to satisfy the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradford et al US 2003/0083397 in view of Baumgart et al US 2003/0104132 and in further view of Arora et al ('154). Bradford et al teaches polyurethane coating consisting of polyisocyanate and isocyanate-reactive groups including free-radically polymerizable (meth) acrylate, and oxazolidines (Paragraphs 25, 35-38, 44, and 69). However, Bradford et al fails to teach amino-capped oxazolidines and relevant water dispersing reactants.

5. Baumgart et al teaches a polyurethane coating consisting of polyisocyanate, free radically polymerizable hydroxyl-containing unsaturated monomers, and oxazolidines (Paragraphs 11, 14-18). Baumgart et al goes on to teach a preferred oxazolidine, which shares the same structure as claimed by applicants. In particular, example 2 consists of N-(2-Hydroxyethyl)-2-isopropyl-1,3-oxazolidine, which has a molecular weight less than 750 g/mol and exists in amounts which satisfy the claimed range (Paragraphs 134, 140,

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and 143-145, examples 1 and 2). Therefore it would have been obvious to include the oxazolidine of Baumgart et al in Bradford et al since patentees teach polyurethane coatings of analogous composition and the mere substitution of an equivalent (something equal in value or meaning, which in this case was actually preferred as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. In re Ruff 118 USPQ 343 (CCPA 1958).

6. Regarding claim 3, the isocyanate-reactive components of Bradford et al include groups with either one or multiple isocyanate-reactive groups. However, the language "may be" in paragraphs 44, 47 and 53 of Bradford et al teach that the inclusion of the multi-functional isocyanate-reactive components is optional, and therefore can also be excluded. It is noted that although claim 3 has been rejected under 112 second paragraph, the position is taken that the claims is satisfied until further clarification.

7. The polyurethane of Bradford et al contains reaction products including polyisocyanate with hydroxyalkyl (meth) acrylate and polyisocyanate with oxazolidines (Paragraphs 44 and 69). Although each component is separate and therefore does not anticipate the formula of claim 8, the formula could be obtained through the obvious combination of the two compositions each of which is taught by the prior art to be useful in the same purpose, in order to form a third composition which is to be used for the very same use of radiation curing and thermal curing and/or cross-linking.

8. As previously mentioned, Bradford et al teaches that the polyurethane system is water dispersible, but fails to mention relevant reactants which allow the polyurethane to exhibit this property (Paragraph 99). Arora et al teaches a polyurethane coating system

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which is the reaction product of polyisocyanate and isocyanate-reactive compounds including an amino-capped group (Abstract). Furthermore, Arora et al teaches the active dispersing group consist of a base neutralized acid-functional compound having isocyanate-reactive hydrogens, and exists in amounts of 25 mol% as seen in examples III-VI (Col 3 lines 1-3, 22-23, 29-31, and 31-34). It is important to note that the molar amounts in Arora et al are applicable to Bradford et al because the dispersion groups provide the same function. Therefore it would have been obvious to one skilled in the art at the time of invention to include in Bradford et al the dispersing group of Arora et al based on both references disclosing water dispersible polyurethanes, having analogous compositions and the prima facie obviousness to add a known ingredient for its known function; in re Linder 173 USPQ 356; in re Dial et al 140 USPQ 244.

9. Applying the teachings Bradford et al in view of Baumgart et al and Arora et al, Bradford et al goes on to teach that the coating composition contains photo and thermal initiators as well as other coating additives (Paragraphs 94, 96, and 98). Paragraph 101 teaches a method for coating a substrate comprising wood, metal or plastic wherein the polyurethane is cured via radiation in an inert environment and thermally, which is taken to satisfy "thermally treating", between 120 and 350°F coinciding with applicants' claimed range (Paragraphs 101, 104, 117, 119, and 124). Finally the coating is taught to be applied as an automotive paint or automotive topcoat material (Paragraph 109).

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradford et al US 2003/0083397 in view of Baumgart et al US 2003/0104132 and further view of Bruchmann et al ('569). Aforementioned, Bradford et al in view of Baumgart et al teaches a polyurethane coating comprising polyisocyanate and an amino-capped

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isocyanate-reactive compound including oxazolidine, but fails to mention other amino-capped groups. Bruchmann et al also teaches a polyurethane coating comprising polyisocyanate and amino-capped isocyanate-reactive compounds including oxazolidine (Col 1 lines 5-11, 47-50, col 2 lines 53-67, col 3 lines 10-15, col 6 lines 63-67, col 7 lines 28-35). Furthermore Bruchmann et al teaches that other amino-capped isocyanate-reactive groups besides oxazolidine may consist of aldimines and ketimines (Col 4 lines 23-28). Therefore it would have been obvious to one skilled in the art at the time of invention to include in Bradford et al US 2003/0083397 in view of Baumgart et al US 2003/0104132 the amino-capped isocyanate-reactive groups taught by Bruchmann et al because the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. In re Ruff 118 USPQ 343 (CCPA 1958).

Note:

The references stated on the IDS that have been lined through have not been considered because no translation or explanation is given as to their relevance in the application.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin J. Gillespie whose telephone number is 571-272-2472. The examiner can normally be reached on 8am-5:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

B. Gillespie


RABON SERGENT
PRIMARY EXAMINER